

AMENDMENTS

In the Claims:

Please cancel claims 15-20, 24 and 25 without prejudice to future prosecution in this or a related application.

Please add new claims 29-44.

C 29. (NEW) A modified functional epoD protein that lacks a β -carbonyl modifying activity encoded by a *Sorangium cellulosum* epoD gene, wherein said activity is selected from the group consisting of a ketoreductase (KR) activity encoded by module 4, a dehydratase (DH), enoylreductase (ER) or KR activity encoded by module 5, or an ER or KR activity encoded by module 6.

30. (NEW) The protein of claim 29 that, relative to an unmodified *Sorangium cellulosum* epoD protein, has an inactivating deletion in a β -carbonyl modification domain.

31. (NEW) The protein of claim 30, wherein the entire β -carbonyl modification domain is deleted.

32. (NEW) The protein of claim 31, wherein the β -carbonyl modification domain is the KR domain in module 6.

33. (NEW) The protein of claim 32, wherein the DH and KR domains of module 6 of the unmodified *Sorangium cellulosum* epoD protein have been replaced with a KR domain from a polyketide synthase other than an epothilone PKS.

34. (NEW) The protein of claim 30, wherein the deletion is in the ER domain of module 6.

35. (NEW) The protein of claim 30, wherein the deletion is in the KR domain of module 5.

36. (NEW) The protein of claim 30, wherein the deletion is in the ER domain of module 5.

37. (NEW) The protein of claim 30, wherein the deletion is in the KR domain of module 5.

38. (NEW) The protein of claim 30, wherein the deletion is in the KR domain of module 4.

39. (NEW) A recombinant cell, or a cell-free system, comprising a functional *Sorangium cellulosum* epothilone polyketide synthase (PKS) comprising a modified epoD protein of claim 29.

40. (NEW) The cell or cell-free system of claim 39 that further comprises a *Sorangium cellulosum* epoK gene product.

C'
cont.
41. (NEW) A modified functional epoD protein that lacks a functional ketoreductase domain in module 6.

42. (NEW) A modified functional epothilone PKS comprising the proteins encoded by the *Sorangium cellulosum* epoA, epoB, epoC, epoE, and epoF genes and a modified functional epoD protein that lacks a functional ketoreductase domain in module 6.

43. (NEW) A modified functional epoD protein that lacks a functional ketoreductase in module 5.

44. (NEW) A modified functional epothilone PKS comprising the proteins encoded by the *Sorangium cellulosum* epoA, epoB, epoC, epoE, and epoF genes and a modified functional epoD protein that lacks a functional ketoreductase activity domain in module 5.
